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Issue 11

MISSOURI CONSERVATIONIST



Vantage Point

Conservation Supports Missouri Counties

I grew up in Carter County, a place admired for its blue springs, forested Ozark mountains and the beautiful Current River. Although blessed with nature's bounty, the county always struggled to generate funds for roads, schools, ambulance service, law enforcement and fire protection. As a youngster growing up on a farm, I remember the county road grader blading our road each year. No doubt that was just one of many maintenance tasks the county performed with funds from its budget.

I am sometimes asked how the Conservation Department, which holds land in trust for all state residents to use and enjoy, benefits county governments.

It's a fair question.

The Conservation Department owns and manages conservation areas in nearly every Missouri county. These areas, which provide many outdoor opportunities, range in size from one acre to several thousand acres. The Department maintains and manages these areas out of its own revenues, but it does what it can to be a good neighbor and help county governments.

Since 1983, for example, the Conservation Department has helped pay for county roadway maintenance to ensure roads to conservation areas are properly maintained. The amount provided to each county varies, but more than \$300,000 was directed to Missouri counties for roadway assistance last year.

In 1980, Missouri voters authorized the use of conservation sales tax revenues to make payments to counties for the unimproved value of acquired lands that were exempted from property taxes. We've also provided special assessments such as levee and drainage fees and payments for forest croplands. Last year, our payments to counties under these agreements totaled \$949,398.

At its April meeting, the Conservation Commission adopted a revised approach to value conservation areas based upon the legislature's approved Agricultural Land Value Rule. The new assessment calculation will be compared to the current payment to the county, and the higher of the two will be remitted. This will ensure counties are not harmed by the new in-lieu tax system.

County and local community volunteer fire departments are also vital conservation partners. The Conservation Department provides financial support, training and equipment for Missouri rural fire departments. Small communities are eligible for matching fire department grants.



Dwane Hillhouse a resource technician from the Conservation Department's Lebanon field office presents a matching funds grant check to Competition Rural Fire Department members. The volunteer fire department in the town of Competition, located southwest of Fort Leonard Wood, also received federal excess personal property (FEPP) for fire suppression through a Conservation Department distribution program.

Statewide, the Department distributed more than \$345,000 in state and federal funds last year. It also coordinated the distribution of \$10 million worth of Federal Excess Property to volunteer fire departments and rural communities. Today, cooperation and teamwork with local fire departments is one of our best examples of community-based conservation.

Through the decades, Department employees and equipment have come to the aid of county residents when floods, tornadoes, ice storms or other emergencies have called for action. During times of need, we have often placed our staff and equipment at the disposal of a county commission or county sheriff. When the great flood came to the Missouri and Mississippi river valleys in 1993, helping counties and the State Emergency Management Agency was a top Conservation Department priority for months.

Economists tell us that hunting, fishing, wildlife watching and forestry in Missouri generate \$7 billion in economic activity each year. We also know that conservation areas bring significant economic value and benefit to nearby rural areas and communities.

I believe Conservation Department lands, programs, employees and activities will always be a boon to Missouri counties. After all, being a good neighbor is one of our highest priorities.

John D. Hoskins, Director

Contents

November 2004
Volume 65, Issue 11



4

4 SHOW ME A STORY —by LuAnn Cadden

Reading time is the best time to introduce children to outdoor fun and the wonders of nature.

8 RENAISSANCE AT SNAKE RIDGE —by Kathryn Buckstaff

Dick and Esther Myers are determined to make their property hospitable to wildlife.

12 TROPHY DOES —by Tom Cwynar

Never overlook the value of taking a mature doe from the deer population.

17 FIGHT FOR SURVIVAL —by Craig Gemming

The Conservation Department struggles to save an ancient species facing modern struggles.

22 DO PIGS HAVE WINGS? —by Tom Hutton

Protecting Missouri's natural habitats from the illegal release of hogs to the wild.



8



12



17



22

DEPARTMENTS

Reflections 2
News & Almanac 28

OUTSIDE IN

The *Conservationist* for kids

COVER

Deer hunters in woods— by Cliff White

♻️ Printed on recycled paper with soy ink



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Reflections

CAP FEATHER

My family and I recently attended the Deaf Outdoor Skills Camp at Osceola, and it was fantastic!

The level of coordination and service exhibited by the Conservation Department, the Missouri School for the Deaf and all the other sponsors and volunteers was unparalleled. You have a great asset in Conservation Agent Dennis Garrison, who coordinates this event.

I grew up hunting and fishing and enjoying Missouri's outdoors, and have always been aware of what the Conservation Department has done for us. It's just one more feather in your cap to provide these great programs for our kids with special needs.

Glennon Whitworth, Lake St. Louis

MILK MARINADE

Many thanks for the article on "Savoring Venison" I've added it to my collection of game recipes.

In addition to the marinades listed, I also recommend milk. I've found that it tenderizes venison (presumably because of the lactic acid) without affecting the flavor, like some other marinades.

Tom Schlafly, St. Louis

Great article on preparing venison! My wife would not fix venison because she hadn't seen any recipes for it. Now you have given Momma some ideas on how to fix ol' Dad's deer, and we are going to try several of them.

If they are as good as they look, ol' Dad will probably be expected to get a deer every year. Hence, the problem of a growing deer herd is being taken care of by ol' Dad and any other member of the family that can carry a gun.

Jack Dotzman, Roach

DEALING WITH DOVES

I have been receiving the *Missouri Conservationist* for several years now.

I just took up dove hunting last year. I would like to know the best way to skin or to dress a dove. Since I have been getting the magazine, I haven't seen anything in there that pertains to this. Can you help?

Theodore J Abramovitz, Purdy

Editor's note: Many dove hunters use their fingers to split the feathers and skin to expose the breast meat. After removing the wings by hand or with wire cutters, they insert a thumb beneath the lower part of the breast and lift while holding the legs down.

TALKING LEAVES

I just wanted to let you know how much I enjoyed the article "If Leaves Could Talk" by Travis Moore.

I have re-typed it and printed it on photo paper to have it framed.

Dick Bailey, Willow Springs,

In "If Leaves Could Talk," the words are pictures. I could see the leaves falling and enjoying a short break in my day.

K. Boysen, via Internet

LAI D AN EGG

I enjoyed the picture of the yellow-billed cuckoo on your October back cover. I had the opportunity to watch one this summer. I heard the bird hit one of our windows and went to investigate. I had no idea what kind of bird it was, but I got my bird book and saw it was a yellow-billed cuckoo.

She was dazed and wobbly on her feet and her eyes were half open. I returned to check on her about 10 minutes later, and to my surprise she placed her breast on the ground, raised her back and tail and laid an egg. What an exciting moment!

Janis Decker, Greenfield

Editor's note: We would like to correct a "goof" in the caption accompanying the photo of the yellow-billed cuckoo. We stated that "early settlers called



COLLARED

Angie Naughton and Aaron Jungbluth found this male eastern collared lizard while on a field trip to the Peck Ranch Conservation Area near Winona. The field trip was part of the "Awesome Amphibian and Radical Reptile" Workshop they attended at the Jerry J. Presley Conservation Education Center in Salem.

these birds ‘fish crows.’” In fact, “fish crow” is the common name for the southern cousin of the common American crow. Yellow-billed cuckoos are often called “rain crows.”

AVOID “FRUITS OF AUTUMN”

Tim Smith’s “Fruits of Autumn” article neglected to mention that the fruits of *Arisaema* spp. are poisonous. “Fruit” may be the botanically correct term, but most people hear the word and think it means edible.

Elizabeth M. Boyle, Willow Springs

Editor’s note: We’re sorry if we implied that the fruits are edible. All parts of jack-in-the-pulpit and green dragon plants contain needle-shaped crystals that cause an irritating, burning sensation if eaten fresh. Some people also develop dermatitis from contact with the plants. Native Americans prepared a flour by grating the well-dried corms (enlarged, underground stems) of jack-in-the-pulpit plants, but we can’t find any record of people eating the berries.

The letters printed here reflect readers’ opinions about the Conservationist and its contents. Space limitations prevent us from printing all letters, but we welcome signed comments from our readers. Letters may be edited for length and clarity.

Ask the Ombudsman



Q: Is hunting along the railroad tracks legal?

A: Railroad rights of way are private property owned by the railroad. I’m unaware of any railroad which will allow hunting on their property. Many railroad crossings have no trespassing signs.

You can find many hunting opportunities on Conservation Department areas and other public land. For details on conservation areas, see the Conservation Atlas at <www.missouriconservation.org/atlas/> or you may want to purchase “The Missouri Atlas and Gazetteer,” available at most Conservation Department offices and online at <www.mdcnatureshop.com/mdc.cgi>.

For more information on other public land, contact the US Army Corps of Engineers <www.usace.army.mil/>, the US Forest Service at <www.fs.fed.us/> or the Ozark National Scenic Riverways at <www.nps.gov/ozar/>. Between 7 and 8 percent of the state is considered public land, leaving more than 90 percent of Missouri in private ownership.

Hunters should contact landowners to request permission to hunt private property. Likewise, responsible hunters should learn about special regulations that may apply on public land. In the case of conservation areas that information is found in Chapter 11 of the *Wildlife Code* which can be accessed electronically at <www.sos.mo.gov/adrules/csr/current/3csr/3csr.asp>. Regulations are also posted in area parking lots, or you can contact a nearby regional office for details.

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Ombudsman Ken Drenon will respond to your questions, suggestions or complaints concerning Conservation Department programs. Write him at P.O. Box 180, Jefferson City, MO 65102-0180, call him at 573/522-4115, ext. 3848, or e-mail him at <Ken.drenon@mdc.mo.gov>.

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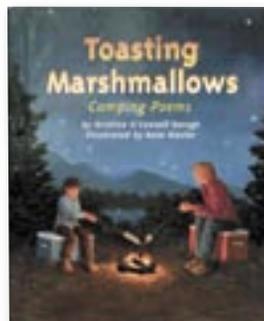


Show Me a Story

Children's books are springboards to family outdoor adventures

by LuAnn Cadden, photos by Cliff White

“Mommy, look! They’re toasting marshmallows just like we did!” my 4-year-old daughter said, pointing to a picture in a book. “Can we do that again sometime?”



Literature is a great way to encourage youngsters to enjoy the outdoors. Since my daughter was born, I’ve been on the lookout for books that we can share together.

In the book we were looking through, ***Toasting Marshmallows-Camping Poems***, author Kristine O’Connell George tells the story of a family’s camping trip. Reading this book to my daughter helped us recall experiences from our weekend in the outdoors and inspired her

to fill her backpack again soon after we turned the book's last page.

I wish I had found the book *Sophie's Knapsack*, by Catherine Stock before I took Rose on her first camping trip. I told her how we'd go hiking in the woods, cook food over a campfire, and sleep in a tent outside. Her 3-year-old mind was a twist of delighted anticipation and apprehension, but I believe she would have been even more excited if she could have seen herself as the character Sophie, a young girl having an outdoor adventure far from their city with her parents.

"As we walk, the trees come close to me."

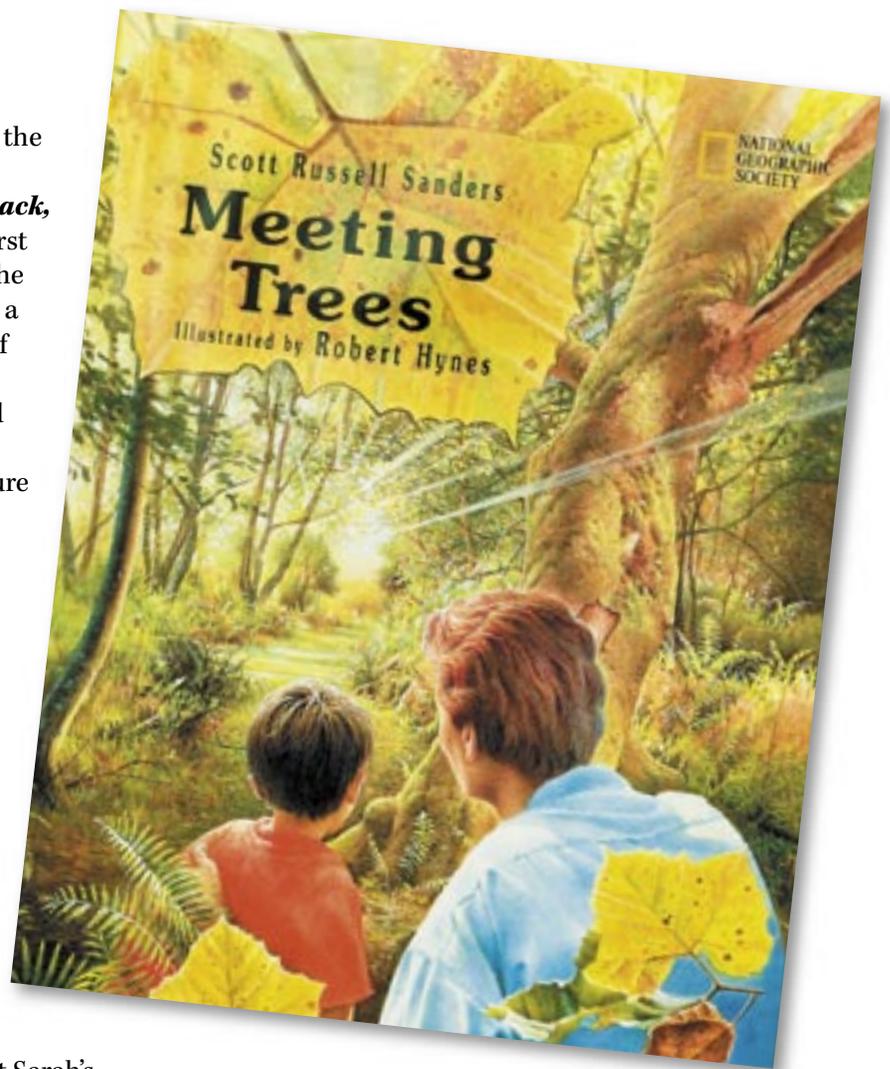
Rose and I have a special trail, tucked in the middle of our small city, where we meet insects, wade through leaves, and taste spider webs. One of her favorite books to extend the memory of our walks is *Sarah's Questions*. In it, author Harriet Ziefert has her mother and daughter characters play "I Spy" as they wander through their rural neighborhood.

"Why does a squirrel have a bushy tail? Why do bees buzz?" The mother tries to answer a stream of questions from her inquisitive toddler. If you have a budding naturalist who asks the "why" of everything, you might appreciate the eloquent answers that Sarah's mother provides.

In contrast to the talking and walking that Sarah and her mother share in the country, a father and daughter speak in hushed voices as they take *The Listening Walk* in the city. Author Paul Showers describes a father and daughter moving silently through the city, soaking in a

variety of sounds, from noisy cars and people to the softer sounds of ducks, leaves and breezes in the park. The phonetic spelling of the sounds makes the book a natural read-aloud.

Although picture books appeal to almost everyone, some youngsters want to read a story on their own.

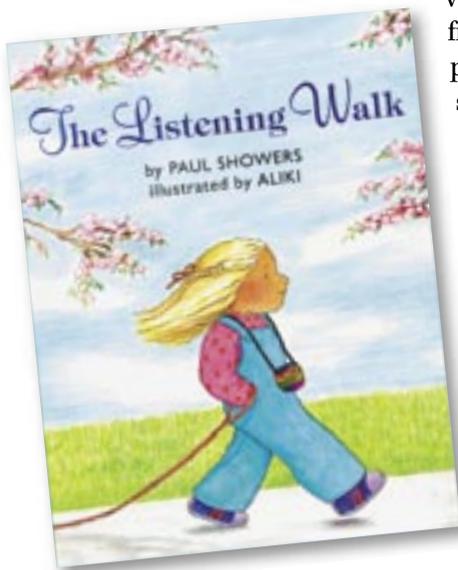


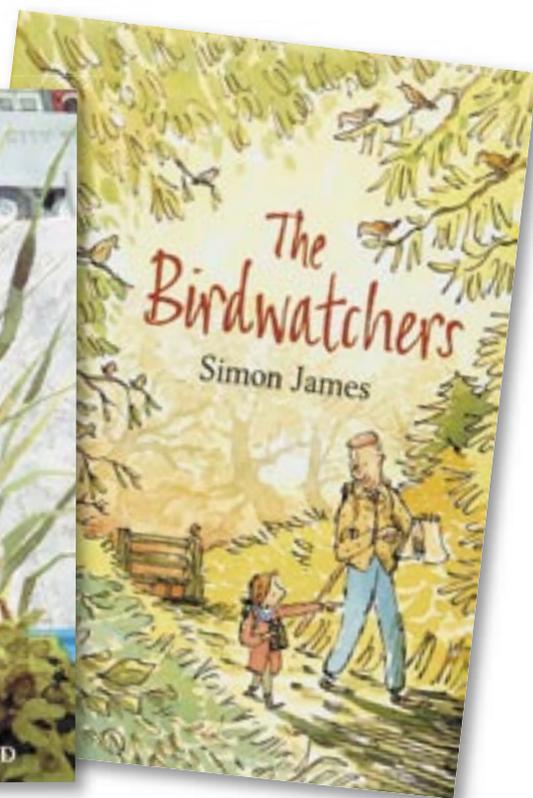
Katy Did It!, by Victoria Boutis, is a novel for young readers about a girl who, despite her lack of confidence, goes hiking with her dad. She learns that it's not easy hiking in the rain, cooking outdoors and understanding that death in the wild means life to others. When she reaches the summit of the mountain, she feels accomplishment as she thinks over the past few days' experiences.

"I measured the walnut board, my father sawed it, and both of us fitted the pieces together."

In *Meeting Trees*, by Scott Russell Sanders, a father shares with his son his woodworking skill and his respect for the trees he harvests. The book begins with a boy and his father in their workshop making a walnut stool for the boy's grandmother. It ends with the father "introducing" his son to a walnut tree on their property. This is a wonderful book to teach children about the value of trees as renewable resources.

Do you have a family tradition of bundling up and venturing into the cold to bring home a live Christmas tree each year? In *Christmas at Long Pond*, by William





T. George, a father and son venture through the snow on Christmas Eve to harvest a Yule tree from a stand of spruce that the boy's grandfather planted years ago. During their walk, the two see many signs that the outdoors is still very

much alive in winter. George has written an entire series of enjoyable books about the family's life at Long Pond.

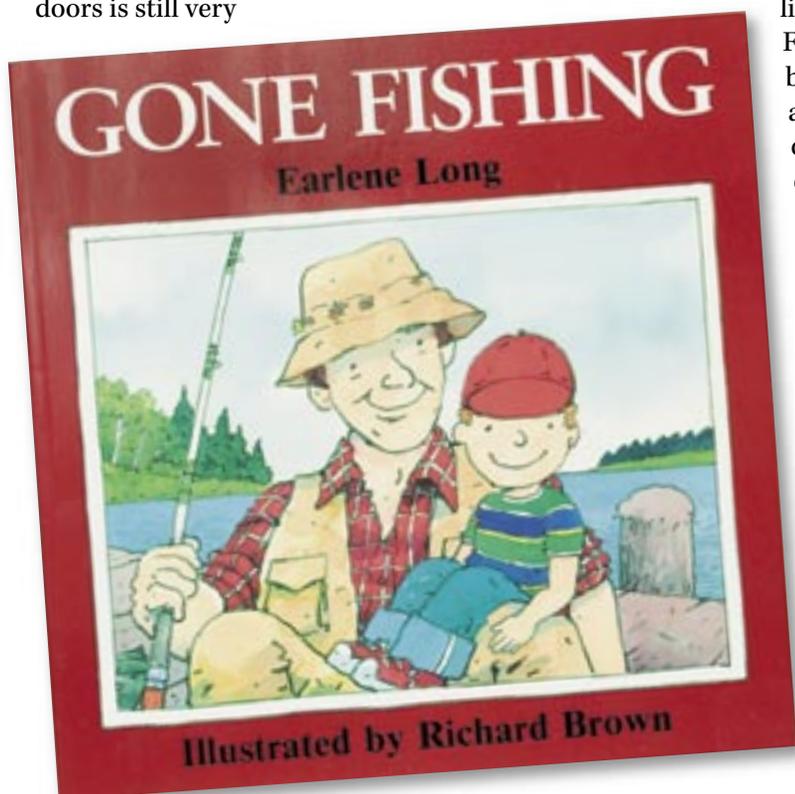
Whether you have a real or manufactured tree in your home, you can enjoy decorating a tree for wildlife like the family did in *Night Tree*, by Eve Bunting. For their annual trek into the woods, this family brings fruit, seeds, nuts and strings of popcorn to adorn the same tree they decorate every year. After decorating, they all gather on a blanket, drink hot chocolate and sing Christmas carols. Much to her brother's dismay, the young girl chooses to sing "Old McDonald."

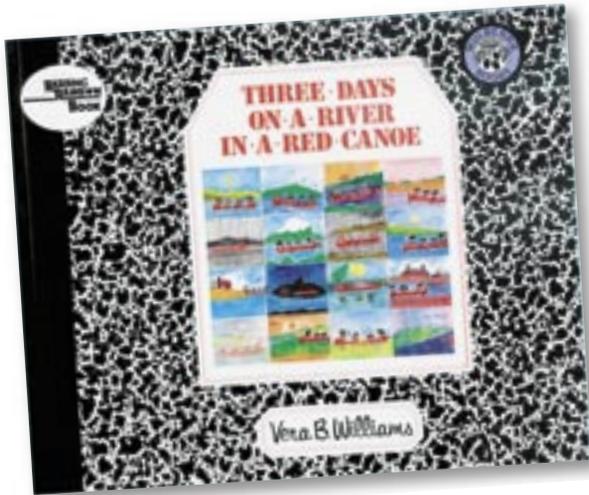
Back at home, warm in bed, the boy imagines all the creatures that will be having a Christmas feast at their tree in the forest.

"...the owl shadow hooted again."

Have you ever taken someone owling? *Owl Moon*, by Jane Yolen, has award-winning illustrations of a dark snowy night when a father takes his young daughter out owling for her first time. In the shadows of the night, the two unknowingly pass other wildlife creatures that only the reader can see.

In contrast to *Owl Moon's* rural scenery, a young boy finds that even in the middle of the largest city you can find a *Secret Place* to observe wildlife. In this story by Eve Bunting,





a boy finds the nesting place of a duck in the concrete caverns of a city river.

Grandparents are also a very special link between children and nature. *The Birdwatchers*, by Simon James, is a tender and funny book about a very enthusiastic bird watcher who tells his granddaughter outlandish bird stories. When she finally accompanies him to a wetland bird blind, she gets caught up in the excitement.

“Gone fishing, signed my daddy and me.”

Whether you're taking your child out fishing for the first time or on a repeat trip, *Gone Fishing*, is a delightfully fun book to read to your toddler. Earlene Long's simple, repetitive text compares big/little things throughout the book during a successful fishing trip for “big daddy” and “little me.”

A little girl shows us that a canoeing trip involves much more than paddling when she spends *3 Days On a River in a Red Canoe*, with her mom, Aunt Rosie, and cousin Sam. Vera B. Williams' book reads like a scrapbook decorated with colored pencil illustrations of their adventures. Along the trip she describes and draws in detail the fish they see and how to tie up a canoe, cook outdoors and set up a tent.

“Lowering his head, he stuck his neck straight out and let go with such an explosive gobble that I thought it would shake the very leaves from the trees.”

Home, At Last, is the Hunter, by W.H. Gross, is an excellent book for young adults who might be interested in or already enjoy turkey hunting. The details of 12-year-old Jeff's turkey hunting trips with his Grandpa, and later on his own, make you feel as if you're sitting right there next to him not moving a muscle as that old tom gets closer.

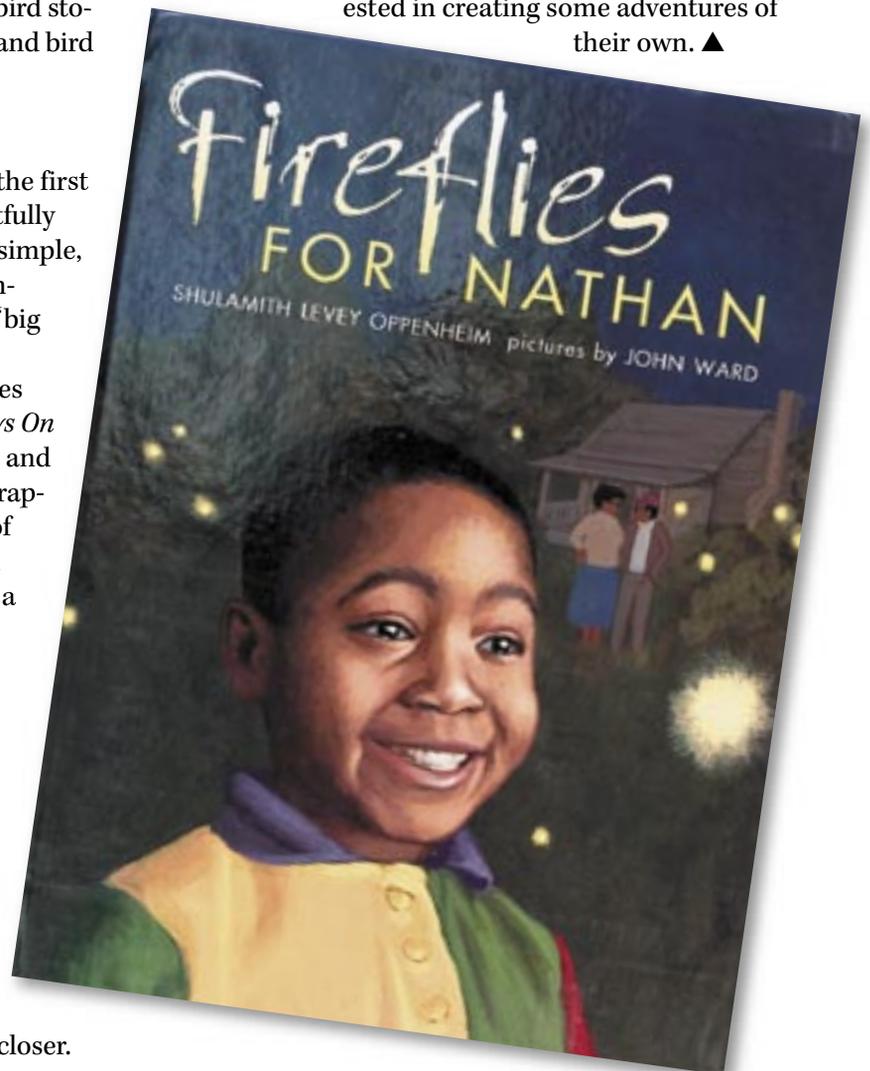
“...bats flutter and turn in midair, looping and crossing...”

Going outside at night with a child can be a rewarding adventure. In *Fireflies for Nathan*, by Shulamith Levey Oppenheim, a young African-American boy spends the night at his Nana and Poppy's house catching fireflies. Nana passes the tradition to her grandson when she digs out the same jar that Nathan's dad used to catch fireflies when he was a boy.

Some families are lucky enough to have bats near their houses to eat some pesky moths and mosquitoes. Leila's parents have taught her to appreciate bats, and she anticipates going out on her back deck to enjoy watching their aerobatics. The book is called *Bat Time*, by Ruth Horowitz.

“...And they fished happily ever after”

If you search the bookstores, you'll find other wonderful books about outdoor adventures for young readers. The stories in them fascinate children and get them interested in creating some adventures of their own. ▲







Renaissance AT SNAKE RIDGE

Dick and Esther Myers work to improve land neglected for nearly a century.

By Kathryn Buckstaff, photos by Jim Rathert

Using chainsaws and prescribed fire, Dick and Esther Myers spend the cool days of spring and fall practicing what they call “a scientific art form.” It’s all part of their efforts to restore glades and improve timber on the 640 remote acres they own in eastern Taney County.

The couple recently requested their second term in the Missouri Department of Conservation’s Forest Stewardship Program. At age 72, Dick says it’s even more important to conserve the diverse and fascinating habitat that defines his property.

Their work has created a legacy of valuable hardwood and wildlife habitat for the native species that are returning to the property. They may even be helping to preserve the tiny Tumbling Creek Cavesnail,

which was recently added to the federal list of endangered species.

“We are trying to preserve,” Dick said, “but one of the great joys is to associate; just to live with these things.”

To care for this land was the reason the Myers retired in 1991 to Snake Ridge Farm. They named the land for the large copperhead that cost Dick the tip of his right middle finger.

Ambling through a glade once choked by cedars, Dick stoops and tenderly jiggles an endangered purple beard-tongue. Its bell-shaped flowers bloom only on bare limestone outcroppings.

Also here are smoke trees with their puffy, grayish blossoms. They are found only in five Missouri

“WE’RE JUST TRYING TO LIVE WITH THIS LAND IN A WAY

counties. The hardwood, once commonly used for fence posts, now thrives in their front yard, with seedlings sprouting alongside.

“We’re just trying to live with this land in a way that’s best for it and easiest for us,” Esther said.

In their quest, they’ve gained valuable help from the Missouri Department of Conservation. The federal stewardship program administered by conservation agencies at the state level was authorized in 1989 by the U.S. Department of Agriculture. While funding for cost-share elements of the program slowed in the 1990s, the 2002 farm bill has boosted those funds, said Brian Brookshire, forestry field program supervisor for the Missouri Department of Conservation.

Nationally, the program’s goal was to place 25 million acres of private forestland under stewardship management. The primary benefit of joining the program is free on-site advice from a local resource forester who designs a specific forest management plan.

The Conservation Department’s mission is to manage Missouri’s forest, fish and wildlife resources. In formulating plans for the best management of individual properties, one of the Department’s foremost considerations is the rights of private landowners. Conservation success, after all, depends on them.

“Of about 14 million acres of forest in Missouri, 83 percent is privately held, and we’re relying on private landowners to do the right thing,” Brookshire said.

Timber production in Missouri generates \$3 billion annually. However, timber production is only one of the program’s facets, said Brookshire.

“The landowner can realize a whole set of benefits to that land and maintain it in a healthy and productive state for generations to come,” Brookshire explained. “They can live on it, camp on it, provide clean water to the streams, hunt on it and still get economic returns.”

Over the past decade, the Myers completed a timber plan on half of the property. They cleared diseased and undesirable trees, such as black oak, to foster the growth of commercially valuable red and white oak. As they cleared their timber, they left “den” trees to provide shelter for wildlife. They do not clear-cut, but maintain trees of various ages.

“It’s like weeding the forest with a chainsaw,” Dick said.

The Conservation Department can provide valuable assistance to landowners conducting a timber harvest. A conservation forester marks trees to be cut, calculates the board feet, requests bids from prospective buyers and presents bids to the landowners who then choose

the cutter. To protect the forest resources and also the interests of the landowner, the Department also specifies “Best Management Practices (BMPs) for timber harvesting.

In the last 10 years, nearly 400,000 board feet of timber have been removed from the Myers’s farm. Once an area is logged, the Myers lime and fertilize the skid tracks and seed the ground with clover and orchard grass. They’ve planted several thousand oak seedlings on the trails.

In addition, the Myers cleared red cedar from 27 acres. That has permitted warm season grasses to flourish, encouraging native plants inhabiting the glades to return. They



As seen through a smoke tree, the Myers’ property has become haven for wildlife.

THAT'S BEST FOR IT AND EASIEST FOR US." —ESTHER MYERS

also built six small ponds and planted food plots with common lespedeza, ladino clover, orchard grass and millet to provide food for deer and wild turkey.

To foster the growth of native plants, they eradicated fescue from certain pastures, using herbicide carefully to minimize the danger of run-off. Fescue grows in a dense mat, eliminating bare ground and crowding out native plants that are beneficial to wildlife. Its thick thatch is inhospitable to insects and prevents quail chicks from escaping from predators.

Quail have returned to Snake Ridge Farm to forage in summer and to take shelter from snow in winter.

Throughout the property the Myers have built trails. Each is named for one of their six grandchildren, who range in age from 9 to 19.

"We wanted to create an environment that would fascinate and educate the grandchildren, and it does," Dick said.

The Myers also imparted land management lessons to the many students who tour the property.

Dick and Esther Myers first became attached to the Ozarks when Dick was stationed with the Army at Fort Leonard Wood. His doctoral dissertation was on the ecology of bats on the Ozark Plateau. He taught biology at two Missouri universities and served for 18 years as the director of the National Weather Service Training Center in Kansas City.

Esther, with a master's degree in public administration, has long monitored clean water activities on behalf of the League of Women Voters. An important consideration in buying Snake Ridge Farm was their desire to help protect the watershed of the Tumbling Creek Cave National Natural Landmark.

In August 2002, the cavesnail was placed on the federal endangered species list. Its habitat on neighboring property likely was degraded by sedimentation filling crevices in the underground creek's gravel beds.

To control erosion from their upstream property, the Myers recently completed an ambitious project with help of the Department of Conservation.

When the Myers moved to the farm, there was a hollow they could drive across. Years of run-off, resulting from bulldozing on higher property, gradually created an impassable, 6-foot deep gully in the hollow.

After getting federal Fish and Wildlife funding through the Department of Conservation, as well as permits from the U.S. Corps of Engineers and the Department of Natural Resources, Dick and Esther cut 20- to 30-foot tall cedar trees and dragged them to the site with a tractor.

On a cold, wet morning in March, they were joined by Greg Cassell, the Taney County resource forester,



Hard work and help from the Conservation Department enabled Dick and Esther Myers to improve their property.

and staff from the Conservation Department's divisions of private lands, fisheries and forestry. Using the same kind of anchors that hold mobile homes to the ground, the crew strapped the cedars to the washed-out sides of the slope. With only a short break for some of Esther's applesauce cake, they completed 120 feet of revetment that day, thwarting further erosion. Eventually, the hollow will heal.

"It's so amazing how willingly these people worked so hard, and they weren't working because they were making big bucks," Dick said, "but because they believed in what they were doing, in the conservation ethic."

Since the Myers's land first entered private ownership in 1899, it has been timbered, plowed and grazed down to bare rocks. Hogs last ran on the property about 1946. The oldest remaining trees are about 120 years old, but most are about 80 years old and of poor quality.

Dick sets a worn axe head on the dining room table. It is among the tools and mule shoes they have found during their toil, remnants left by pioneers who had little luck on this fragile, marginal land. They found the axe, dulled from hitting rocks and cracked in half, abandoned where the farmer last swung it.

"They tried to farm this land," Dick said. "They'd get a good spring with the rain. Then their crops would drought out in the summer."

Lightly touching the battered axe head, Esther says, "They were seeking the American dream."

Likewise, Dick and Esther Myers are fulfilling their own version of the American dream, helping their beautiful piece of property regain its regal splendor. ▲

TROPHY DOES

Whether you hunt for food or sport, mature does make tempting targets.

By Tom Cwynar



CLIFF WHITE

Several years ago, I fired at the first deer I saw on opening day morning. The deer collapsed like the bullet had let the air out of it.

“Good shot!” I told myself and climbed down from the treestand to tag the deer.

I found the young buck easily in the knee-high weeds. He looked a little small, but I was glad to have

filled my tag. Other years, I have not been so lucky.

Even describing the buck as “a little small” might still be an exaggeration. It was a “button buck. Two fingertip-size nubs on its head showed where antlers would have grown. After I gutted it, I was able to lift the deer into the back of the truck without lowering the tailgate.



JIM RATHER



CLIFF WHITE

New regulations will increase doe harvest and protect growing bucks.

At the check station, I couldn't help but conclude that the hunters in line with me had seen larger deer than I had. I was comforting myself with the thought that it was just the luck of the draw, when a little girl sitting on an old man's shoulders stared into the back of my truck and said, "Oh, look, Grandpa! It's just a baby!"

Once free of the check station, I drove straight home. I'd already decided to butcher the deer myself. Processors charge by the deer, not the pound. Paying the full fee for such a small deer didn't make sense to me.

Don't get me wrong. I was happy I'd shot a deer and, at the end of a long day in the kitchen, had venison in the freezer. However, one single thing would have made the day much more satisfying—a bigger deer.

BIGGER DEER

There are many more young deer than adult deer. Adult does in Missouri usually have two fawns per year, and about half of the female fawns born that year will give birth around the time of their first birthday.

A deer—buck or doe—generally doesn't approach the 100-pound mark until its second year and won't reach its top weight until it is about 4 or 5 years old. Because of hunters and other threats, only a small percentage of deer—especially bucks—reach their peak size. As the record books show, however, the Missouri deer that manage to reach their potential weight are real trophies.

TROPHIES

During a series of public meetings this year, many Missouri citizens and hunters expressed their desire to see larger bucks. The best way to achieve this through management is to shift harvest pressure from bucks to

does. Taking more does and fewer bucks raises the percentage of bucks in the population. It also allows more bucks a chance to grow big antlers.

For years, the Conservation Department has restricted the number of bucks that hunters could harvest. This year, new restrictions create a kind of "slot limit" for bucks. In 29 counties in the state, hunters aren't allowed to harvest bucks ranging from "spike" bucks with 3-inch or longer points to bucks without at least four points on one side of their rack.

Controlling doe numbers is key to keeping a deer population in check. The new regulations should work, but it will help if hunters avoid shooting those small bucks.

SMALL BUCKS

Although legal, taking a small buck with nubs, or with points less than 3 inches long, doesn't contribute to our efforts to balance the deer herd. It just takes another buck out of the population.

Targeting bigger deer helps you avoid shooting young bucks. It's easy to tell whether a big deer is a buck or a doe, but buck and doe fawns are difficult to tell apart. Buck fawns do grow faster than doe fawns, but that just makes them more vulnerable to hunters, who usually will shoot the larger of a pair of fawns. Young buck fawns also are more aggressive and curious, making them easier targets.

Shooting the small buck also keeps you from filling your Antlerless Permit with a doe. Last year, more than 26,000 Firearms Antlerless Permits were filled with button bucks. This unintentional buck harvest slows attempts to balance the population by limiting the production of the deer's fawn factories.

FAWN FACTORIES

The older the doe, the more fawns it produces. One-year-old deer average only about $\frac{1}{3}$ of a fawn per doe. The average jumps to $1\frac{3}{4}$ fawns per doe the following year, and then it steadily increases nearly 2 fawns per doe for deer by five years of age.

Mature deer also make better mothers. Studies show that the chances of fawn survival increase with the age of the mother. Lots of factors likely contribute to the improved odds. The larger the deer, the better able it is to defend against or intimidate predators. Older deer also may command more favorable home ranges and, through experience, have learned where to find food

and safety for themselves and their fawns. In other words, they are smarter.

SMARTER THAN BUCKS?

Linger where deer hunters gather, either in sporting goods stores or in internet chat rooms, and you're apt to run into the long-running argument about whether a mature doe is smarter than a wise old buck.

Any deer—buck or doe—that reaches maturity has demonstrated intelligence and has likely learned a lot about survival. Older does, however, have shown a special kind of savvy. Not only have they survived, but they have helped their young and other deer traveling with them escape danger.

Hunters consider old bucks wise, because they generally travel in thick cover and usually late at night. However, bucks don't feed nearly as much during the rut, which roughly corresponds to the hunting seasons. Because they are not reliably traveling to feeding areas, they are harder to pattern and ambush.

Does, on the other hand, have to put enough weight

on in the fall to sustain themselves and their gestating fawns through winter. This forces them to frequently visit feeding areas and bed down near them. Generally doe movements are more predictable than bucks.

This is not to say a mature doe is easy to hunt. Does seldom let down their guard, and mature does seem especially vigilant.

TARGETING MATURE DOES

- ▲ Mature does seldom travel alone. Deer society is matriarchal, with the dominant doe in charge.
- ▲ When entering a field or opening, the older doe often leads the group into a field or opening. It is also usually the first in a file of deer moving along a trail.
- ▲ Watch closely for subtle movement. Mature does tend to sneak away from potential danger rather than run away from it.
- ▲ Make sure you have a killing shot. Although doe venison is generally better than buck venison, the gaminess of the meat increases if the animal runs long distances after being hit.

Hunters often tell of old does wise enough to look up into the trees for hunters. Are does smarter than bucks?





JIM RATHERT

Mature does have more fawns than young deer and are better mothers.

Bucks are legendary for being careless, even acting a little stupid, during the hunting season. I've seen them pace noisily back and forth on a ridge for more than a half hour, and I've spooked away bucks only to have them return a short time later. I once dropped a thermos from a tree stand, and a buck I hadn't seen marched right up to sniff it.

Bucks may be as smart as does, but during the fall, they fall victim to hormones and instincts. While does seem to spend most of their time looking for danger, bucks seem to travel with their noses to the ground. The biggest racked deer I ever took walked so close to me that all I could see was deer hair in my scope.

I waited until he passed and then took him—an easy target and a nice wall rack. During the next year, I spent a lot of time bragging, but I also spent a lot of time chewing. That was one tough deer.

TOUGH DEER

An old saying goes, “you don't eat antlers.” Back when hunting camps were popular, hunters often shot a doe for camp meat. The prime fare provided by the doe fueled them for hunting “trophy” bucks.

Venison from breeding bucks is almost certainly going to be tougher than doe meat. At the very time when does are fattening themselves for winter, bucks are running themselves ragged, chasing does and fighting other bucks. During the rut, a buck's food consumption drops about 50 percent. In fact, breeding bucks can

lose 25 percent of their body weight during fall.

During a taste study in Texas, most of the participants favored venison from does over venison from bucks. After mining those surveyed for more information, the researchers concluded that venison from does had less “flavor intensity.”

That's a researcher's way of saying it isn't as “gamey.”

You can mask tough, strong-tasting venison with marinades and spices, or you can have it made into sausage or jerky. These specialty meats taste good, but you will have to pay a premium for them, and you will be missing out on the sweet, delicate flavor of meat from a fat doe. For many hunters, venison for the family table is the primary incentive for hunting.

HUNTING FOR DOES

Years ago, only bucks were fair game. Hunters grew up believing that good conservation demanded that does be left for “seed” to build up the population. Hunting regulations and the belief of hunters that shooting does was wrong helped create the great deer hunting we have today.

Times have changed. We now have a healthy deer population in Missouri, and good conservation requires maintaining it at a sustainable level. This requires a change in both regulations and hunter attitudes.

Taking does need no longer be taboo. In fact, the Conservation Department is encouraging hunters to take more does and leave the bucks to “seed” a more balanced population. From a conservation standpoint, the big does that hunters bring into check stations are the best trophies of all. ▲



CLIFF WHITE

Adjusting our aim toward trophy does will help balance Missouri's deer population.

Imagine yourself fishing for catfish on the Missouri or Mississippi river. Feeling a sharp tug on the end of your line, you set the hook and start battling what you think is a big catfish.

After several minutes, you pull a fish up from the murky depths and discover it looks like a creature from a Hollywood monster movie. It has a shark-like body, a long, bony snout and is armored with rows of sharp, bony plates. You've caught a sturgeon.

Sturgeon are an ancient family of fish. They evolved during the time of the dinosaurs. Missouri has three species of sturgeon: pallid sturgeon, lake sturgeon and shovelnose sturgeon. Pallid sturgeon and lake sturgeon are endangered species. Shovelnose sturgeon, the most common of the three, has recently become a species of concern. Habitat loss and past, unregulated commercial fishing are the primary reasons for their decline.

Long-lived sturgeon face many challenges.

BY CRAIG GEMMING
PHOTOS BY CLIFF WHITE

Fight for SURVIVAL



About Sturgeon

Sturgeon are found in the Missouri and Mississippi rivers. These bottom-dwelling fish prefer strong current and live in areas having a hard bottom. At certain times of the year, they can be found along sand and gravel bars or in deep, scoured areas of the river. Sturgeon have long, flat snouts, large pectoral fins and long, streamlined bodies that help them move about and hold position in strong current.

A sturgeon's diet consists mostly of larval aquatic insects, crayfish, snails, small clams and small fish. As lake and pallid sturgeon grow,

they depend more on small fish for food. However, sturgeon sometimes scavenge dead animal matter and are often caught by catfish anglers using worms or cut bait (pieces of fish).

Lake sturgeon can live up to 150 years, grow up to 8 feet long and weigh up to 300 pounds.

Pallid sturgeon can live more than 40 years, reach 6 feet long and weigh up to 65 pounds.

Shovelnose sturgeon, the smallest of the three species, can live more than 20 years but rarely measure more than 30 inches long or weigh more than 5 pounds.

Like most other long-lived species, sturgeon take a long time to mature sexually. It takes 15–20 years (25–40 lbs.) before a lake sturgeon can spawn for the first time; 7–12 years (6–12 lbs.) for a pallid sturgeon; and 5–7 years (2–3 lbs.) for shovelnose sturgeon. Also, unlike most other fish species, sturgeon don't spawn every year. A female lake or pallid sturgeon only spawns once every 3–5 years, and a female shovelnose sturgeon spawns once every 2–3 years. Their slow rate of maturation and infrequent spawning make sturgeon extremely susceptible to overharvest.



Sturgeon Identification

All three species of sturgeon found in Missouri look somewhat alike. It's especially difficult to tell the difference between pallid sturgeon and shovelnose sturgeon. Lake sturgeon and pallid sturgeon are endangered and protected by law. These two species must be returned to the water unharmed immediately after being caught. Therefore, it is very important for anglers to learn how to quickly identify each species.

Lake sturgeon, often called rubbernose sturgeon, have a shorter, rounder snout than the other sturgeon, which have shovel-



LAKE STURGEON

Lake sturgeon have the shortest, roundest snout of the three species. The barbels near their mouth are smooth, rather than fringed or serrated.



PALLID STURGEON

The belly of a pallid sturgeon is smooth and scaleless. There is the longest snout of the three species, and a line across the barbels would be curved.



SHOVELNOSE STURGEON

The bases of a shovelnose's barbels are in a straight line. The belly of a shovelnose sturgeon is covered with thin, scale-like plates.

shaped snouts. Lake sturgeon also have smooth barbels; pallid and shovelnose sturgeon have fringed or serrated barbels. These barbels, located at the front of the mouth, help the fish locate food and find their way along the bottom of the river. Young lake sturgeon are mottled light-brown, but adults are solid dark brown or slate colored.

Shovelnose or Pallid?

Biologists use four main characteristics to tell pallid sturgeon and shovelnose sturgeon apart.

1. The shovelnose sturgeon has a shorter snout and head than the pallid sturgeon.

2. Shovelnose barbels form a straight line across their bases. Pallid sturgeon barbels form a crescent-shaped line at their bases.

3. Shovelnose barbels are attached equally distant between the mouth and tip of the snout. Pallid sturgeon barbels are attached closer to the mouth than to the tip of the snout.

4. The belly of a shovelnose sturgeon is covered with thin, scale-like



Of our three species, only shovelnose sturgeon can legally be harvested.



A Conservation Department test net yields several shovelnose sturgeon.

plates. Pallid sturgeon have skin-like, scaleless bellies.

In addition, the two inner barbels on a shovelnose sturgeon are about as thick and nearly as long as the two outer barbels. Those barbels on a pallid sturgeon are usually thinner and much shorter than the outer barbels.

Also, adult shovelnose have light brown to buff sides and back and a white belly. Young pallid sturgeon are about the same color, but as they mature, their sides and back turn grayish white.

Threats to Survival

Of the 24 species of sturgeon worldwide, 16 are classified as endangered. Four are classified as threatened, and four are classified as vulnerable. As mentioned, Missouri's lake and pallid sturgeon are endangered. Habitat loss and unregulated commercial fishing in the past are the primary reasons for their decline. However, other factors, including habitat alterations by humans to the Missouri and Mississippi rivers, pollution and the introduction of exotic species, have contributed to the decline of these species.

Sturgeon are excellent barometers of big river environmental conditions because of their wide distribution, migratory nature and diverse habitat requirements. For most of their existence, sturgeon thrived in the diverse habitat that was once found in the Missouri and Mississippi rivers. Historically, our big rivers were wide and shallow, consisting of braided channels, sand bars, gravel bars, sand shoals and numerous wetlands.

Shallow areas with gentle current served as nursery and seasonal habitat for most fish species, including sturgeon. However, development of the big rivers for flood control and commercial navigation has adversely altered much of the 3,350 miles of river habitat in the sturgeons' range.

In the last 65 years, 28 percent of the Missouri and Mississippi rivers have been impounded by dams, creating unsuitable, lake-like habitat. More than 50 percent of each river's length now consists of deep, uniform, fast flowing, restructured channels, and 95 percent of the wetlands have been eliminated.

Commercial fishing and over-harvest also have had a big impact on sturgeon. During the late 1800s, lake sturgeon were so common that people indiscriminately killed them to prevent them from damaging fishing nets. Rendering plants processed them for fertilizer, and steamboats burned their oily flesh for fuel. People also developed a taste for their flesh and eggs. By the mid 1900s, both lake and pallid sturgeon were already considered rare. Their numbers have continued to decline.

Of our three species, the shovelnose sturgeon is the only species that can be legally harvested. It managed to escape serious exploitation until recently, when interest in shovelnose caviar increased.

From 1998 to 2001, the shovelnose sturgeon harvest on the Mississippi River by commercial fishermen increased more than tenfold. This dramatic increase concerns biologists.

The demand for shovelnose sturgeon continues to increase despite health advisories issued by the Missouri Department of Health & Senior Services that warn of high contaminant levels in the fish and their eggs.

Road to Recovery

During the early 1990s, the Conservation Department developed "action plans" to help the



The Conservation Department uses "spaghetti" tags, as well as internal tags to track sturgeon.

recovery of lake and pallid sturgeon. Goals of the plans are to re-establish self-sustaining populations so they can be delisted as endangered species and ultimately provide limited sport fisheries. These plans stress the restoration of both species through habitat improvement, artificial propagation, protection, research, management and education. The Department has been implementing all aspects of these plans over the last several years.

Restoring and improving habitat are key to the recovery of our endangered sturgeon. We continue to work with the Corps of Engineers by designing and installing projects that will increase the diversity of habitat available to all native river fish, including our endangered sturgeon.

We are also working with the Corps of Engineers and many other state and federal agencies to achieve a balanced approach to river management that will benefit all interests and still provide for more abundant fish and wildlife.

Since 1984, the Department's Blind Pony Fish Hatchery has raised and stocked more than 13,000 pallid sturgeon and 150,000 lake sturgeon into the Missouri and Mississippi rivers.

The Department also has recently started a long-range, statewide sturgeon monitoring project to track population trends of all our species. Since the mid 1990s, fisheries biologists across the state have been sampling and gathering information on sturgeon from both the Missouri and Mississippi rivers. Biologists are tagging sturgeon to collect more information on population size,

REPORTING YOUR CATCH

Anglers catching a tagged lake, pallid or shovelnose sturgeon are encouraged to report the following information:

1. Species caught
2. Date caught
3. Where caught (river mile/nearest town)
5. Tag number, length, and weight.

This information will help us achieve our goal of restoring our sturgeon populations.

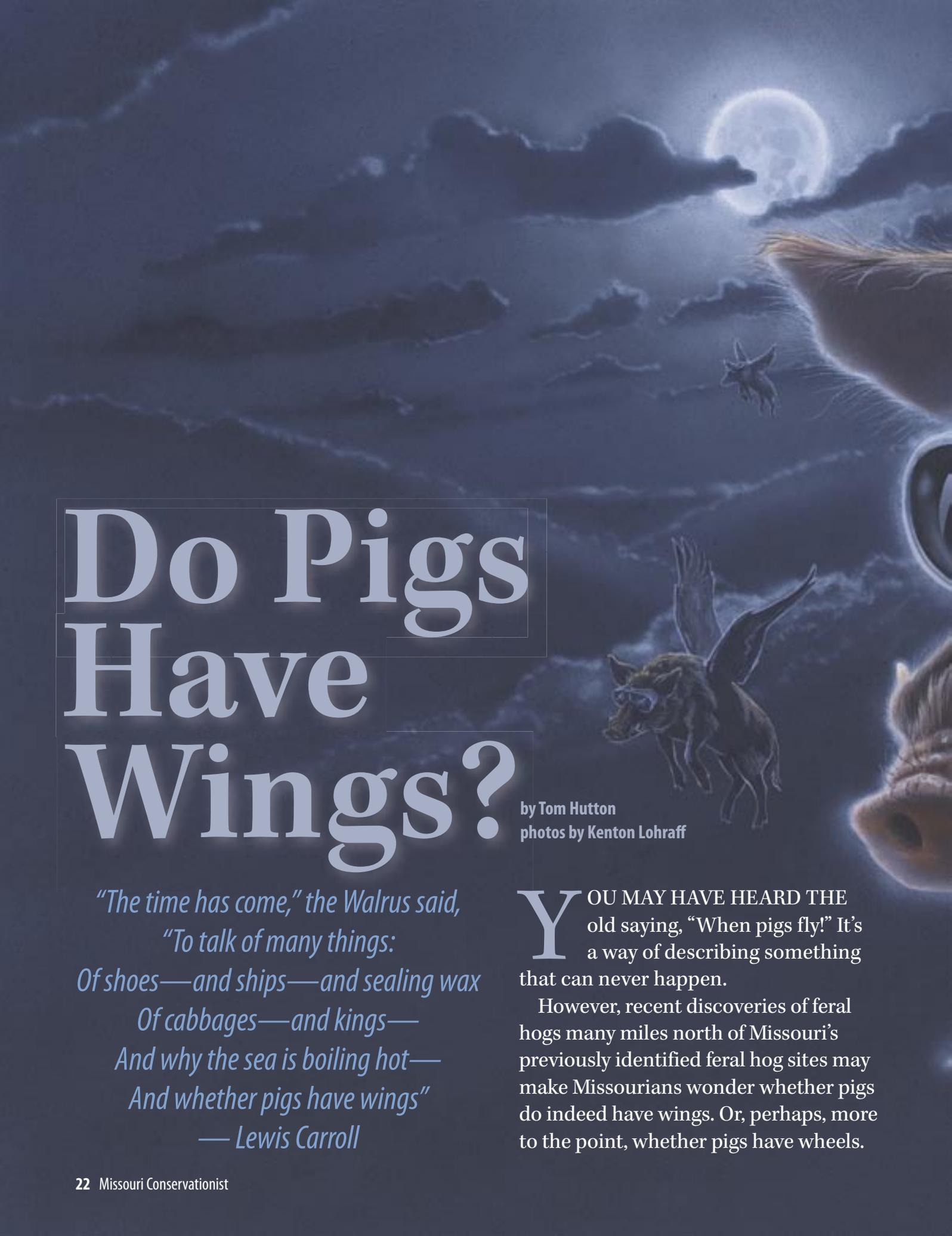
To report a tagged sturgeon, call toll free 866/762-3338. For more information about sturgeon identification, contact the Missouri Department of Conservation, Resource Science Center, 1110 S. College Ave., Columbia, MO, 65201, 573/882-9880 or Central Region Office, 1907 Hillcrest Dr., Columbia, MO, 65201, 573/884-6861.

growth, movement and harvest.

Properly managing our sturgeon populations is also important to their recovery. Pallid and lake sturgeon are illegal to harvest and have been protected by law for many years. We have also intensified our efforts to better regulate harvest of shovelnose sturgeon. Commercial harvest regulations for shovelnose sturgeon have become more restrictive over the past few years. Even so, population trends have continued to decline. As a result, the Conservation Department may consider even more restrictive regulations in the future.

Sturgeon Survival

Rebuilding sturgeon populations will require a concentrated effort to solve many problems affecting these big river fish. Restoring habitat and balancing the management of our big rivers is an important first step. If all big river stakeholders work together to find and implement solutions for the sturgeons' recovery, then Missouri's aquatic dinosaurs will win their fight for survival. ▲



Do Pigs Have Wings?

by Tom Hutton
photos by Kenton Lohraff

*"The time has come," the Walrus said,
"To talk of many things:
Of shoes—and ships—and sealing wax
Of cabbages—and kings—
And why the sea is boiling hot—
And whether pigs have wings"
— Lewis Carroll*

YOU MAY HAVE HEARD THE old saying, "When pigs fly!" It's a way of describing something that can never happen.

However, recent discoveries of feral hogs many miles north of Missouri's previously identified feral hog sites may make Missourians wonder whether pigs do indeed have wings. Or, perhaps, more to the point, whether pigs have wheels.



They have neither, of course. Wild, cross-bred swine are appearing in places where they have not been before not by flying, driving or walking. The hogs aren't taking it upon themselves to move into the countryside. Instead, people are releasing hogs to the wild. Some are even importing hogs into Missouri and releasing them.

Why would anyone import and release feral swine given the damage those animals can do to Missouri's crops, economy, livestock industry, lawns and gardens, and natural resources? We hope the people doing this are unaware both of the consequences of their actions and that their activities are illegal. We also hope they'll stop it.

Against the Law

In 2002, the Missouri General Assembly updated Missouri's "stray hog" laws. These statutes define a feral hog as "any hog, including Russian and European wild boar, that is not conspicuously identified by ear tags or other forms of identification and is roaming freely on public or private land without the landowner's permission."

It is illegal to release hogs on public land, or anywhere else where they can roam freely. The statutes allow landowners to kill such hogs on their land and

Wild hogs have the potential to spread diseases that affect people, pets and livestock.



A feral hog nest stands out in the snow. Feral hog sows have two litters a year, each containing four to six piglets.



Feral hogs compete with wildlife for habitat and food supplies.

protect landowners from liability for doing so. They also allow any person to kill feral hogs on public and private land with the consent of the landowner, except as regulated by the *Wildlife Code of Missouri* during the firearms deer and turkey seasons, and holds them harmless from liability for doing so. The law also prohibits the take or kill of feral hogs with the use of an artificial light except by a landowner or their agents on their own property.

The *Wildlife Code* allows feral hogs to be taken in any number throughout the year. During most of the year, no permit is required and any method is allowed. However, permits are required and special regulations apply during the firearms deer and turkey hunting seasons. People pursuing feral hogs during these seasons should study the regulations closely.

Resident landowners and lessees, as defined by the *Wildlife Code*, are not required to have any permit. They may use any method on their land to take feral hogs throughout the year.

Feral or Domestic?

Feral or "wild" hogs generally involve a combination of blood lines that include Russian or Eurasian Wild Boar (razorbacks) and an assortment of domestic varieties. Most of these are Yorkshire, Hampshire and Duroc. Some feral hog populations even acquire pot-bellied pig genes after people tire of their pets and abandon them in rural areas. All of these swine interbreed, and the offspring display a variety of sizes and colors including gray, red, black, spotted, and black and white belted.



Hogs devastate forests and croplands as they root for acorns, earthworms and plant roots.

Most feral hogs are released intentionally by people who want to hunt them. Hogs that escape from inadequate or damaged enclosures can also go wild, as can swine that are abandoned when pork prices periodically hit bottom, making it unprofitable to take them to market. Once in the wild, they multiply rapidly.

Missouri is not the only state suffering from this situation. Kansas, Arkansas, Colorado, Illinois, Wisconsin, Indiana, Ohio, Pennsylvania and Washington now have free-ranging hogs within their borders, as do the Canadian provinces of Saskatchewan, Manitoba and Ontario. Of course, substantial numbers of wild hogs already exist in Texas, Oklahoma, Georgia, Alabama, Florida, Mississippi, Louisiana and California.

Hog Problems

Wild hogs have the potential to spread diseases that affect people, pets and livestock. Currently, the diseases



When hogs wallow in springs, seeps, ponds and streams, they contribute to erosion and degrade natural habitats.

of most concern are trichinosis, leptospirosis, swine brucellosis and pseudo-rabies. In southern states, feral hogs frequently have infection rates of 10 percent for swine brucellosis and 30 percent for pseudo-rabies. One domestic hog operation in Georgia was invaded twice by diseased wild boars that infected the stock. As a result, all of the domestic hogs had to be destroyed.

Feral swine could also spread foot and mouth disease, anthrax, or various swine fevers. An outbreak of any of these diseases could be catastrophic. In 2001, for example, an outbreak of foot and mouth disease caused \$7 billion in economic losses, including a quarantine on all English beef. Entire herds were condemned and destroyed. A similar outbreak in Missouri could devastate the state's cattle industry. It's also conceivable that feral swine could provide a reservoir for various other viruses to mutate and eventually affect people.

Rooting and Feeding

Feral hogs primarily eat plants, roots, acorns and earthworms. In pursuit of food, they may substantially damage pastures, hayfields, grain and truck crops, vineyards,

Any acorns consumed by feral hogs are at the expense of Missouri's turkeys, deer and other native wildlife.



Rubs are usually found near wallows. The hogs revisit comfortable scratching trees or logs to rub off hair, mud and parasites.



The skull of a hog shows the sharp tusks that make feral hogs dangerous to dogs and people.

forest land and archeological sites. Their rooting plows the earth to depths of 2-8 inches, much as a rotary tiller or an offset disc. This disturbs native plant communities and affects survivability of some plant species. In just one county in Texas, feral hogs cause an estimated \$100,000 in crop damage annually. In southern states, feral hogs substantially damage lawns, gardens, parks and golf courses.

Wallowing

Because hogs lack sweat glands, they cool themselves by wallowing in seeps, springs, ponds, lakes and streams. Their wallowing contributes to soil erosion and sedimentation that smothers aquatic life, sometimes degrading rare natural communities.

Predation

Hogs also prey on newborn lambs, goat kids and deer fawns. They eat turkey and quail eggs, and they devour reptiles and amphibians that they uncover. Some Texas sheep ranchers annually lose 15 percent of their lamb crop to feral hogs. On the other hand, feral hogs have few natural predators.

Competition with Wildlife

Feral hogs also compete with native wildlife for food, especially for acorns. Telemetry studies have shown that turkey hens in Missouri's Ozarks lay small clutches, or fail to nest at all, in the year after failed acorn production. Any acorns consumed by feral hogs are at the expense of Missouri's turkeys, deer and other native wildlife.

Dangerous

Feral hogs, whether mature boars or sows with pigs, can be dangerous. Although most hogs run away at the sight of people, they have been known to charge. They also bully cattle, horses and deer away from feeders, sometimes causing them to run through fences.

Road Hazards

Any wild swine constitutes a potential road hazard. They are built “low to the ground” and are active at night. They lack the reflective layer (tapetum) at the back of their eyes that deer have, so their eyes don’t shine when hit by artificial light. This and their generally dark coloration make them difficult for drivers to see.

Hogs in Missouri

Feral hog populations in Missouri are relatively small, localized and thinly scattered. However, feral hogs reproduce at a high rate. Each adult sow can wean 10-12 pigs per year. Their numbers easily can double twice a year. It’s estimated that 70 percent of the hogs must be removed annually just to stabilize the population.

Because of their reproductive potential and limited number of predators, it’s essential that we quickly identify occurrences of hogs and eliminate the animals before they begin to cause problems.

Though eradication or control of feral hogs is difficult, it has been accomplished at some sites in Missouri. The effort requires the cooperation of private landowners, federal and state agencies, agricultural organizations and hunters.

It’s to the benefit of Missouri citizens and wildlife that everyone recognize the potential danger associated with these animals and prevent further releases and escapes. People should report sightings of feral hogs to the Conservation Department by calling 573/ 751-4115, ext. 3147, the APHIS-Wildlife Services at 573/449-3033 or their local Conservation Agent. ▲

INFO FOR HUNTERS

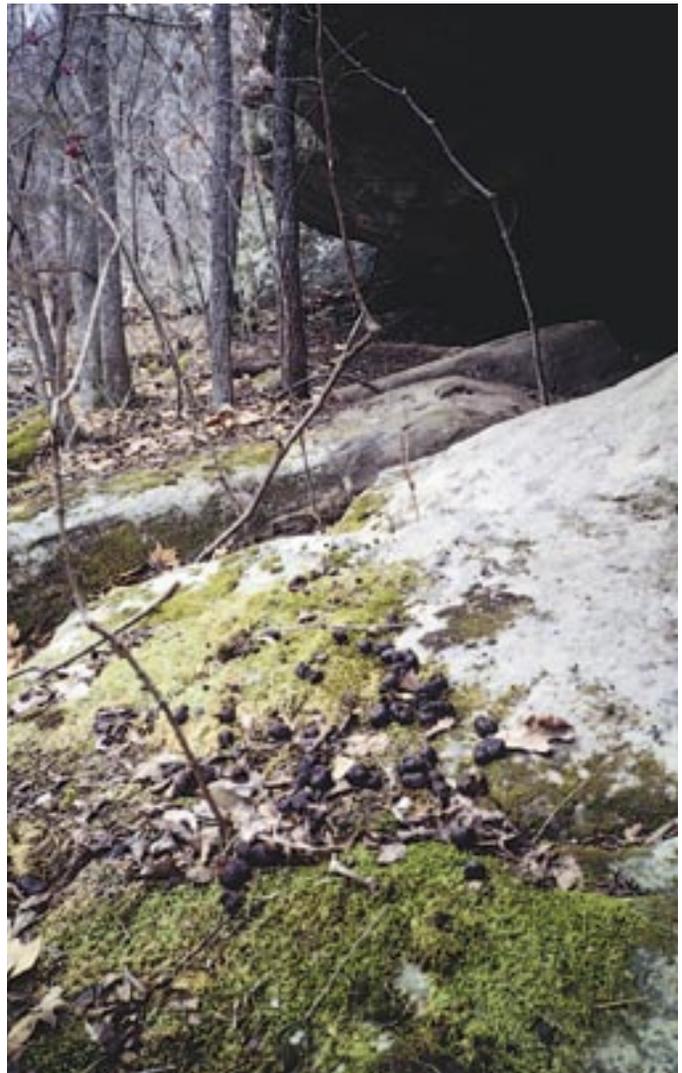
Missouri’s feral hogs move frequently in response to food supplies and hunting pressure so they are difficult to find.

Private landowners and their neighbors generally kill feral hogs that appear on private property. You can help by hunting on public areas near where feral hogs have been spotted.

Many hunters don’t target feral hogs, but take them while hunting other game. To find feral hogs, hunters must scout areas to locate fresh sign. They can then devise strategies to intercept them along trails to feeding areas, bedding sites and watering holes.



Cage traps are effective at trapping hogs, especially when food supplies are limited



Scat piles show hog infestation. It is illegal to release hogs anywhere where they can roam freely.



USE Communities get federal grants

Gov. Bob Holden recently announced that 18 Missouri communities will receive more than \$1.6 million in federal grants for parks and recreation. The grants are part of the Land and Water Conservation Fund program, which is designed to help city, county and state governments or school districts buy and develop or renovate outdoor recreation facilities.

Grants were awarded through a competitive process administered by the Missouri Department of Natural Resources. Recipient agencies are required to provide a 55-percent match. Some of the communities receiving grants are:

- ▲ The City of Alton, \$150,000 for park acquisition and development.
- ▲ Bakersfield R-IV Schools, \$150,000 for park acquisition and development.
- ▲ City of Gladstone, \$32,490 for Happy Rock Trail renovation.
- ▲ City of Lee's Summit, \$150,000 for Eagle Creek acquisition and trail development.
- ▲ Platte County, \$150,000 for Platte Ridge Park development.
- ▲ City of Raytown, \$149,850 for C. Lee Kenagy Park improvements.
- ▲ City of Republic, \$26,163 for J.R. Martin Park Trail.
- ▲ City of Republic, \$26,615 for Miller Park Trail.
- ▲ St. Louis County, \$150,000 for Greensfelder Park Trail.
- ▲ City of St. Robert, \$53,100 for park renovation
- ▲ City of Trenton, \$41,218 for Eastside Park Trail extension.

Information about the grant program is available from the Department of Natural Resources, 800/334-6946 (TDD#800/379-2419) or online at <www.mostateparks.com/grantinfo.htm>.

Shrubs and Woody Vines book complements tree volume

If you have the Conservation Department book *Trees of Missouri*, you'll probably be interested in its companion book, *Shrubs and Woody Vines of Missouri*.

Text by author Don Kurz and detailed, black-and-white illustrations by artist Paul Nelson describe 25 native shrubs, 32 native woody vines, 18 exotic shrubs and six exotic woody vines.



The 388-page coffee table book helps you identify, care for and propagate native shrubs and vines. It also provides tips on which are best for attracting butterflies, birds and other wildlife. *Shrubs and Woody Vines of Missouri* is available at conservation nature centers and regional Conservation Department offices. Order electronically at <www.mdcnatureshop.com>, or by calling toll-free 877/521-8632. Ask for item No. 01-0135 (softbound, \$16.50 plus tax and shipping) or

01-0136 (hard cover, \$21.50 plus tax and shipping).

Arbor Day poster contest

Trees are Terrific and Energy Wise!" That's the theme for the 2005 National Arbor Day poster contest. Missouri fifth-graders will vie for a cash prize and the chance to compete in the national contest.

The Conservation Department sends packets with contest details to art teachers statewide. Any fifth-grade teacher can obtain a packet by contacting Donna Baldwin, P.O. Box 180, Jefferson City, MO 65102, <donna.baldwin@mdc.mo.gov>. The deadline for state contest submissions is Feb. 18.

The state winner will receive a \$50 savings bond and a 6- to 12-foot tree to be planted on their school grounds. The national winner will receive a \$1,000 savings bond and a trip to the National Arbor Day Foundation in Nebraska City, Neb.

YOUTH DEER HUNTS POPULAR

During the two-day 2003 youth segment of the firearms deer season, 9,054 Missouri youngsters harvested deer. Most hunters bagged their first deer. A few young hunters, like Nevan Woehr of Rich Fountain, took a trophy they'll remember their entire life.





Natural Events Calendar on sale now

The 2005 Natural Events Calendar is on sale now at Conservation Nature Centers and regional Conservation Department offices statewide.

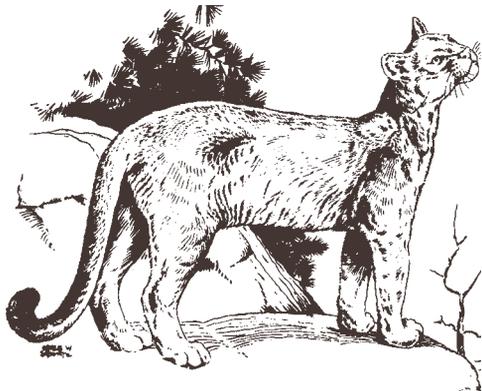
The calendar contains stunning photographs of a wide range of Missouri native birds, fish, mammals, plants and landscapes. This year's assortment includes an azure-bellied fence lizard, a gossamer luna moth, an albino groundhog, and trees and bluffs cloaked in ice. The June photo of a tiny bobcat kitten trying to negotiate a rocky ledge is sure to end up behind glass in many homes, along with the May photo of orange-skinned and tassel-headed bluebird hatchlings emerging from sky-blue eggs.

The calendar features daily entries that provide insights into what's happening in the natural world. Witch hazel blooming, bald eagle nesting, goldfinch molting, salamander breeding, walleye spawning, the arrival of purple martins and ruby-throated hummingbirds, and celestial events, such as meteor showers, all have places in the calendar.

The calendar costs \$5, plus tax and shipping. Because supplies are limited, it's better to order early. To order, call toll-free 877/521-8632, or write to The Nature Shop, P.O. Box 180, Jefferson City, MO 65102. You can also order online at www.mdcnatureshop.com/.

CAT BORN UNDER A WANDERING STAR

Recent confirmed cases of mountain lions in Missouri have raised the question of where they came from. A clue may be found in the recent case of a 2.5-year-old male mountain lion killed in May by a train in northeastern Oklahoma. A radio collar around the 114-pound cat's neck allowed wildlife officials to trace it back to the Black Hills area of eastern Wyoming. It traveled more than 660 miles from where biologists last detected its radio signal.



Missouri youths win wildlife art contests

A St. James youth has won the federal Junior Duck Stamp Competition, and three siblings from Pittsburg, Mo., pulled off a clean sweep of the Missouri State Fish Art Contest.

Adam Nisbett, 17, won the 2004-2005 national duck stamp art contest sponsored by the U.S. Fish and Wildlife Service. His winning entry, titled "Morning Watch," is an acrylic painting showing a pair of fulvous whistling ducks standing in a marsh.

Nisbett receives a \$4,000 scholarship and an expense-paid trip to Washington, D.C., for himself, a parent and his teacher. Nisbett is home-schooled by his parents. His art teacher is his mother, Kim Nisbett.

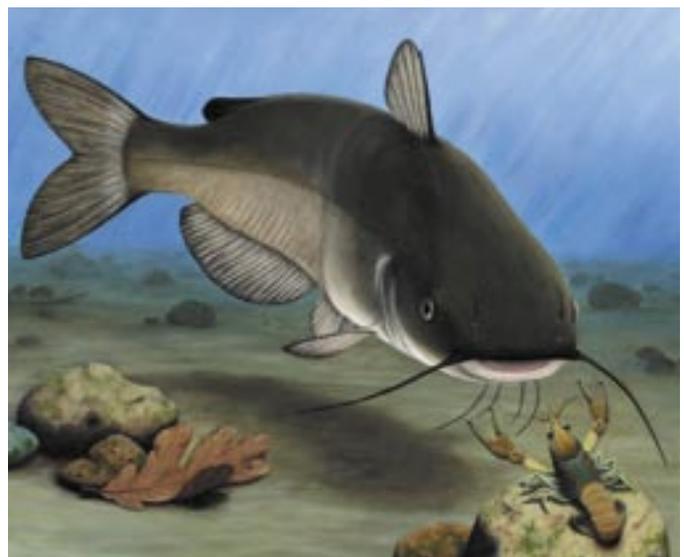
The 2004-2005 Federal Junior Duck Stamp is now on sale to collectors and conservationists at post offices nationwide for \$5. Proceeds support environmental education.

Three other home-schooled children swept the 2004 State Fish Art Contest sponsored by Wildlife Forever. Teal Jenkins, age 11, and her sisters Brie, 13, and Tiara, 16, along with their parents, Mel and



Lila Jenkins, traveled to Minneapolis, Minn., in June to receive awards for their paintings. They also went fishing and attended a Minnesota Twins baseball game as guests of Wildlife Forever. Their mother and teacher, Lila Jenkins, said she wasn't exactly surprised to learn all three of her daughters had won the national contest. "They put a lot of effort into it," she said. "You don't necessarily expect to win, but we were hopeful."

Each of the contest programs offers free instructional materials for teachers. For more information, visit <http://duckstamps.fws.gov> or www.statefishart.com.





NO GLASS BOTTLES ON STREAMS

It's now illegal to take glass-bottled beverages in a canoe, kayak, float tube or any other easily tipped vessel on Missouri streams. Missouri Statute 306.325, enacted by the Missouri Legislature earlier this year, also requires floaters to use coolers or other similar containers sealed to keep the contents from spilling. The same law requires floaters to bring a bag or other trash container and take all their trash to a proper disposal receptacle when they leave the stream. Failure to do so is a class C misdemeanor.

Monuments honor conservation stalwarts

You won't find the names L.T. "Corky" Wilder and Earl L. Lutes in a history book, but in Bollinger County, their legacies loom large on the landscape. That's why the two have been memorialized with monuments at the Conservation Department's Southeast Regional Headquarters building in Cape Girardeau.



Lutes, who died in 2001 at age 74, started his career with the Conservation Department in 1947 as a towerman in Marble Hill. He stayed there with the Forestry Division for 45 years, making him the longest-tenured Conservation Department worker at the time of his retirement.

Wilder died in 1997 at age 68. His career as a conservation agent stretched 31 years, from 1957 to 1988.

The two became inseparable as friends and co-workers. Whether fighting fires or poachers, they were tireless in the service of conservation.

Lutes' son, Tim, who paid for the monuments, recalls that "People in the community used to say that they thought both of them slept with their clothes on because of how quick they would show up when you called them."

Power for Wildlife charges up partners

To benefit wildlife on utility easements, a new cooperative effort is uniting landowners, utility companies, the National Wild Turkey Federation (NWTf) and the Missouri Department of Conservation.

This program, called "Power for Wildlife," began in the spring of 2002, when Conservation Department private lands specialists Clint Dalbom and Allan Branstetter came up with the idea of cutting trees farther away from electric transmission lines, leaving the downed trees to create cover for wildlife, then planting low-growing food plots on the easements.

Besides making rights-of-way better for wildlife, these activities make them easier to maintain and service.

With \$10,000 support from the Missouri NWTf's Superfund program and administrative help from the Conservation Department, Power for Wildlife was born.



Dalbom and Branstetter tested the concept with a pilot project on Mark Freeman's land in Texas County. At Freeman's request, the local electric utility company widened the right-of-way by cutting trees and leaving them on the ground to create a wide, brushy border between woodlands and the open ground beneath power lines. Discing and seeding with low-growing, warm season grasses, legumes and other food-producing plants made the area a wildlife magnet. Adding a pond completed the job of turning otherwise unusable acreage into a haven for quail, turkey, songbirds and small game. The wildlife benefits extended as much as half a mile on either side of the right-of-way.

With the pilot project complete, Dalbom and Branstetter held a field day to let other landowners see their ideas in action. Thirty-two enthusiastic landowners in Texas, Dent and Shannon counties applied to join the project. The Conservation Department and the NWTf helped with cost-sharing programs.

For more information on how to start a Power For Wildlife program in your area, contact the nearest Missouri Department of Conservation office or your local utility. — *Leslie Peterson*



LIGHT DISCING HELPS BOBWHITES

Landowners who want to see more bobwhite quail and other ground-nesting birds on their grassland acres can accomplish their goals by lightly discing their ground.

Pastures with thick, matted grasses might as well be the Great Wall of China to newly hatched quail, which are not much bigger than bumblebees. Opening up pastures to let quail in takes periodic work. This is true whether the forage crop is a cool-season grass, such as fescue, or native, warm-season grasses, such as bluestem and Indian grass.



One way to remove accumulated growth is to run a disc over fields just enough to create lots of scratches in the turf. The idea is to leave about half of the soil exposed. This might require two or three passes with a disc where growth is especially thick.

How much pasture you disc—and where—depends on your overall land-management goals. To improve quail habitat in a working pasture, you can disc edge strips near other key elements of quail habitat, such as brushy cover, bare ground, row crops and water. If you use prescribed burns to manage your pasture, discing can provide fire lines and improve quail habitat at field edges.

For maximum benefit to quail, create wildlife food plots with wheat or sorghum, and disk grass on adjacent contour strips.

Discing one-third of pastures each year ensures continuous availability of land with a protective canopy of grasses overhead, and enough open ground below for quail to hunt for insects and seeds.

Be sure to check seasonal restrictions on discing fields enrolled in the Conservation Reserve Program (CRP).

CASH AVAILABLE TO DEVELOP OUTDOOR CLASSROOMS

The Missouri Department of Conservation provides Show-Me Conservation Outdoor Classroom Grants for Missouri educators. Grants of up to \$1,000 are available to public, private or parochial schools interested in developing or enhancing outdoor learning sites on or near school grounds.

The program promotes interdisciplinary, hands-on instruction outdoors and fosters knowledge and conservation of native wildlife and wildlife habitat.

Applications are due March 18, 2005. Approved projects must be completed by May 10, 2006. For application forms, visit <www.missouriconservation.org/teacher/outdoor>, or contact Syd Hime, 573/522-4115, ext. 3370.

Lunker redhorse is new state record

A 5-pound, 1.7-ounce redhorse sucker taken from the Niangua River in June obliterated the previous record for that species. Henry Glass of Tunas caught the 23.5-inch fish with a rod and reel. His catch more than doubled the previous record, a 2-pound, 3-ounce fish taken from the Meramec River in 1995. For more information about fishing records, visit <www.missouriconservation.org/fish/records/>.

Dog killer faces hard time

A Maries County man who shot four hunting dogs served 40 days in jail for the deed. The man was convicted in Phelps County Circuit Court on four counts of animal abuse. He was ordered to pay court costs and jail keep, which totaled \$769.50.

The charges stemmed from a January 2002, incident in which rabbit dogs strayed onto the shooter's property. The dog killer found himself in court a second time in a civil suit filed by the dogs' owners. He ended up paying them \$6,500 in damages.

Missouri's largest private landowners make pioneering donation

Leo and Kay Drey, who were profiled in the November, 2003 issue of the *Missouri Conservationist*, have donated Pioneer Forest, the largest private landholding in Missouri, to the L-A-D Foundation. The donation includes more than 146,000 acres in six counties and was appraised at about \$180 million.

Mr. Drey established Pioneer Forest in 1951. He used the land to develop and demonstrate sustainable logging practices. L-A-D President John Karel says the foundation will carry on Dreys' legacy, preserving the forest while creating forest products and jobs.



Outdoor Calendar

Hunting	open	close
Common Snipe	9/1/04	12/16/04
Coyotes	5/10/04	3/31/05
Crow	11/1/04	3/3/05
Deer/Turkey, Archery	9/15/04	11/12/04
	11/24/04	1/15/05
Deer, Firearms		
Youth	11/6/04	11/7/04
November	11/13/04	11/23/04
Muzzleloader	11/26/04	12/5/04
Antlerless	12/11/04	12/19/04
Doves	9/1/04	11/9/04
Furbearers	11/15/04	2/15/05
Groundhog	5/10/04	12/15/04
Pheasants		
North Zone	11/1/04	1/15/05
South Zone	12/1/04	12/12/04
Quail	11/1/04	1/15/05
Rabbits	10/1/04	2/15/05
Ruffed Grouse	10/15/04	1/15/05
Sora and Virginia Rails	9/1/04	11/9/04
Squirrels	5/22/04	2/15/05
Woodcock	10/15/04	11/28/04
Fishing		
Black Bass (most southern streams)	5/22/04	2/28/05
Nongame Fish Stream Giggling	9/15/04	1/31/05
Trout Parks		
catch and release (Fri.–Sun.)	11/12/04	2/13/05
Trapping		
Beaver	11/15/04	3/31/05
Furbearers	11/15/04	2/15/05
Otters and Muskrats	11/15/04	varies

See regulations for otter zones, limits and dates

For complete information about seasons, limits, methods and restrictions, consult the Wildlife Code and the current summaries of Missouri Hunting and Trapping Regulations and Missouri Fishing Regulations, the Fall Deer and Turkey Hunting Information, Waterfowl Hunting Digest and the Migratory Bird Digest. To find this information on our Web site go to <<http://www.missouriconservation.org/reg/>>.

The Conservation Department's computerized point-of-sale system allows you to purchase or replace your permits through local vendors or by phone. The toll-free number is 800/392-4115. Allow 10 days for delivery of telephone purchases. To purchase permits online go to <<http://www.wildlifelicence.com/mo/>>.

AGENT NOTEBOOK

While patrolling in

Reynolds County during firearms deer season, I saw a deer hunter sitting against a tree across a field. I walked along the edge of the field to contact the hunter to check his deer tag.

While still a long distance away from the hunter, I could see him turning around to look at me. I also saw him raising something I assumed were binoculars each time he looked at me.

When I reached the hunter and identified myself as a Conservation Agent, he told me he knew who I was because he had looked at me through his scope. Few things are as unnerving as knowing someone had been pointing a rifle in your direction. I checked his permit and firearm, and then we discussed the issue of the unsafe use of his scope.

In hunter education, we teach future hunters never to point a firearm at anything they don't intend to shoot. Using the scope of a rifle like you would use binoculars breaks all the rules of safe hunting and could easily lead to a hunting accident. Before looking through your scope at anything that is not a game animal—a house, car or another hunter—think of how you might feel if someone had their crosshairs on you.

Hunting can be rewarding and fun, but don't let the thrill of harvesting game take precedence over being a safe hunter. The best way to enjoy the upcoming hunting seasons is to think of safety first.—*Michael Suttmoeller*



The day before opening day



Opening day



Program Schedule

Television the way Nature intended!

Broadcast Stations

- Cape Girardeau** UPN "The Beat" WQTV / Saturdays 8:30 a.m.
- Columbia** KOMU (Ch 8 NBC) / Sundays 11:00 a.m.
- Hannibal** KHQA (Ch 7 CBS) / Weekends, check local listing for times
- Kansas City** KCPT (Ch 19 PBS) / Sundays 7:00 a.m.
- Kirkville** KTVO (Ch 3 ABC) / Saturdays 5:00 a.m.
- St. Joseph** KQTV (Ch 2 ABC) / Weekends, check local listings for times
- St. Louis** KSDK (Ch 5 NBC) / Sundays, 4:30 a.m.
- Warrensburg** KMOS (Ch 6 PBS) / Sundays 6:30 p.m.

Cable Stations

- Branson** Vacation Channel / Fri., Sat. 8:00 p.m.
- Brentwood** Brentwood City TV / Daily, check local listing for times
- Cape Girardeau** Charter Cable Ed. Ch. 23 / Thursdays 6:00 p.m.
- Chillicothe** Time Warner Cable Channel 6 / Wednesdays 7:00 p.m.
- Hillsboro** JCTV / Mondays 12 p.m. & 6 p.m.
- Independence** City 7 / Thurs. 2 p.m., Sat. 10 a.m. & Sundays 8 p.m.
- Joplin** KGCS / Sundays 6 p.m.
- Kearney, MO** Unite Cable / Tuesdays 6:30 p.m.
- Mexico** Mex-TV / Fridays 6:30 p.m. & Saturdays 6:30 p.m.
- Noel** TTV / Fridays 4:30 p.m.
- O'Fallon** City of O'Fallon Cable / Wednesdays 6:30 p.m.
- Parkville** City of Parkville / First and third Tuesdays of the month 6:30 p.m.
- Perryville** PVTV / Mondays 6 p.m.
- Raymore** Govt. Access-Channel 7 / Various, check local listings for times
- Raytown** City of Raytown Cable / Wed. 10:00 a.m. & Saturdays 8:00 p.m.
- St. Charles** City of St. Charles-Ch 20 / Tues. 5:00 p.m. and Wed. 10:00 a.m.
- St. Louis** Charter Communications / Saturdays 10:30 a.m.
- St. Louis** City TV 10 / Mondays 11:30 a.m., Wednesdays 3:30 p.m.
- St. Louis** Cooperating School Districts / Wednesdays 9 a.m.
- St. Louis** DHTV-21 / Mondays 10:30 a.m.
- St. Louis** KPTN-LP/TV58 / Thursdays 10:00 a.m.
- St. Peters** City of St. Peters Cable / Various, check local listings for times
- Ste. Genevieve** Public TV / Fridays 1 p.m., 6 p.m. & 12 midnight
- Springfield** KBLE36 / Nine times a week, check local listing for times
- Sullivan** Fidelity Cable-Channel 6 / Wed. 11:00 a.m. and Fri. 7:00 p.m.
- Union** TRC-TV7 / Tuesdays 3:00 p.m.
- West Plains** OCTV / Mondays 6:30 p.m.

Meet Our Contributors



Kathryn Buckstaff has been the Branson bureau chief for the *Springfield News-Leader* for 12 years. Raised in the pine woods of northern California, she now lives in a grove of oaks near Lake Taneycomo.

Luann Cadden is a naturalist at the Conservation Department's Northwest Regional Office in St. Joseph. She enjoys taking walks with her family, gardening, camping, cooking and curling up with a good book under a shade tree.



Tom Cwynar is the editor of the *Conservationist*. He grew up in Michigan, where he learned the value of venison from his father. He formerly was the editor of a bowhunting magazine headquartered in Minnesota. Tom lives in Jefferson City and enjoys the outdoors in every way possible.

Fisheries biologist **Craig Gemming** has worked for the Conservation Department since 1981. He manages public lakes and streams in the central part of the state. He works on Missouri River issues and coordinates the Department's long term, statewide Sturgeon Monitoring Project.



After 28 years with the Conservation Department, **Tom Hutton** now works as a wildlife disease biologist with the U.S. Department of Agriculture. He enjoys photography, bird dogs, hunting, bird watching, and hiking and biking with Anne, his wife, and his two daughters, Erin and Meghan.



OPERATION GAME THIEF

1-800-392-1111



The Eagle State

An adult bald eagle scans the clear waters of the Niangua River for fish. Only adult eagles—at least 4 or 5 years old—have the white head distinctive of the species. Decades ago eagles wintered in Missouri but nested elsewhere. We now have more than 50 nesting pairs in Missouri. —*Jim Rathert*